

ABSTRACT

The invention relates to a rubber composition for a tire tread simultaneously establishing a high wear resistance and a low heat buildup, and more particularly to a rubber composition for a tire tread comprising 10-250 parts by weight of a carbon black per 100 parts by weight of a rubber component, in which said carbon black is produced in a carbon black production step satisfying the following relational equations (1) and (2):

$$2.00 \leq \alpha \leq 9.00 \dots (1)$$

$$-2.5 \times \alpha + 85.0 \leq \beta \leq 90.0 \dots (2)$$

- 10 when a residence time from the introduction of the starting hydrocarbon into the high-temperature combustion gas flow to the introduction of the quenching medium is t_1 (sec), an average reaction temperature for such a time is T_1 ($^{\circ}\text{C}$), a residence time from the introduction of the quenching medium to the enter of a reaction gas flow into the reaction stop zone is t_2 (sec), an average reaction
- 15 temperature for such a time is T_2 ($^{\circ}\text{C}$), $\alpha = t_1 \times T_1$ and $\beta = t_2 \times T_2$.